What is claimed:

1. A voltage regulator comprising:

a load control unit having an output configured to be coupled to a load, said unit being responsive to a load control signal for controlling the delivery of power to said load;

a feedback unit coupled to said output of said load control unit and configured to produce a feedback signal indicative of a voltage level applied at said output; and

a controller responsive to said feedback signal and configured to generate said load control signal such that said voltage level substantially corresponds to a predetermined reference voltage level.

2. A voltage regulator in accordance with claim 1 wherein said controller is configured to receive a user input signal defining said reference voltage level.

3. A voltage regulator in accordance with claim 1 wherein said controller is configured to determine the deviation between said output voltage level and said predetermined reference voltage level.

4. A voltage regulator in accordance with claim 1 wherein said controller is a microprocessor unit.

5. A voltage regulator in accordance with claim 1 further comprising a system power source connected to said load control unit and said controller.

6. A voltage regulator in accordance with claim 1 wherein said controller is further configured to receive digital messages.

7. A voltage regulator in accordance with claim 1 further comprising a reset unit connected to said controller.

8. A voltage regulator in accordance with claim 1 wherein said load control unit includes a bi-directional switching device having one terminal connected to said system power source, a second terminal connected to said output of said controller by way of a first resistor and a first capacitor that are connected in series, said second terminal further having a second resistor connected between it and a third terminal of said switching device, said third terminal being connected to said load.

9. A voltage regulator in accordance with claim 8 wherein said switching device is a triac.

10. A voltage regulator in accordance with claim 9 further comprising a zero-cross detection unit connected between said system power source and said controller wherein said zero-cross detection unit is configured to allow for phase-conduction angle control of said triac by said controller.

11. A voltage regulator in accordance with claim 1 wherein said controller is configured for proportional-integral (PI) control of said load.

12. A voltage regulator in accordance with claim 1 wherein said feedback unit includes a first diode connected between said load and a first resistor, which, in turn, is connected in series to a first parallel combination of a second resistor and a first capacitor, said first parallel combination being further connected in series to a second parallel combination of a third resistor and a second capacitor, which is then connected to an input of said controller, and a second diode.

13. A voltage regulator in accordance with claim 1 further comprising a power supply configured to generate a predetermined supply voltage.

14. A voltage regulator in accordance with claim 13 wherein said power supply is comprised of a parallel combination of a resistor and a capacitor connected in between a diode that is connected to said system power source, and a zener diode connected to ground.

15. A voltage regulator in accordance with claim 13 wherein said power supply is connected to said controller to provide said supply voltage to said controller.

16. A voltage regulator in accordance with claim 13 further comprising a protection circuit to connected between said power supply and said controller configured to maintain said supply voltage provided by said power supply at a constant level.

17. A method of regulating voltage comprising the steps of:

supplying a voltage to a load;

sampling said voltage using a feedback unit to determine the level of voltage being supplied to said load;

communicating said sampled voltage level to a controller;

processing said communicated sampled voltage level in said controller with a predetermined reference voltage level to determine a deviation; and

controlling said voltage in accordance with said deviation to maintain said voltage within a predetermined maximum limit.

18. A method of regulating voltage in accordance with claim 17 further comprising the step of inputting a desired reference voltage level to thereby define said predetermined reference voltage.

19. A method of regulating voltage in accordance with claim 17 wherein said sampling step further includes the substep of generating a feedback signal indicative of said sampled voltage.

20. A method of regulating voltage in accordance with claim 19 wherein said communicating step includes communicating said feedback signal to said controller.

21. A method of regulating voltage in accordance with claim 17 wherein said processing step further includes the substep of generating a load control signal in accordance with said deviation.

22. A method of regulating voltage in accordance with claim 21 wherein said controlling step includes the substeps of:

delivering said load control signal to a load control unit that is responsive to said load control signal; and

adjusting the phase-conduction angle of a triac to provide a voltage level that corresponds to said predetermined reference voltage level.

23. A method of regulating voltage in accordance with claim 17 wherein said controlling step is carried out using proportional-plus-integral control.